

Assessing the users' awareness level: social media and university libraries in the context of modern educational environment

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Abstract

This article aims at analyzing the use of social media by university libraries to increase user awareness in the context of the modern educational environment. The review of studies conducted in this area emphasized the importance of libraries' interaction with social media as a tool for creating a space where students and teachers can receive and share relevant information. The article presents the survey results aimed at studying the impact of social media on the awareness of university library users. The data analysis makes it possible to identify the positive aspects of using social networks and to identify possible areas for improving this process. Based on the results obtained, recommendations and suggestions for further improvement of strategies for using social networks in the work of university libraries are formulated. This allows creating a more effective educational environment, increasing the level of information literacy and meeting the information needs of users in the university environment.

Keywords

Social media, university libraries, SMM, libraries' interactivity, level of users' awareness 1

1. Introduction

Today's information society, which follows rapid technological changes, assessing the level of user awareness is a key aspect in managing information flow in university libraries. The commonality of intellectual resources of social networks in combination with traditional library tools allows creating a unique educational environment, promoting the development of information literacy among students and academic staff.

The relevance of studying the social media use by university libraries and assessing the level of user awareness is extremely high in the modern educational context. With the appearance and rapid development of information technologies, including social media, universities and their libraries are facing challenges related to changes in approaches to teaching, research and knowledge sharing.

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Modern students and professors strive for instant access to information and actively interact in the virtual space of social networks.

Accordingly, libraries, as key participants in the educational process, should adapt to these changes by using social media to improve information interaction and raise awareness of their users.

However, despite the growing popularity of social media, there is insufficient research on their use by university libraries and their impact on user awareness. This article aims to fill this gap and make a significant contribution to understanding and optimizing the use of social media to improve the quality of service by university libraries in the modern educational environment.

2. Related Work

Literature analysis in the field of social media use by university libraries and assessment of users' awareness reveals a number of key aspects that determine the relevance and need for further research.

The trend of library marketing research tends to grow every year, with the most citations related to social media marketing in the library. R. Thaha and R. Purnamasari analyzed articles on library marketing in the scientometric database Scopus for 1977-2021. According to their results, 287 studies in this area were published during this period [21]. R. Bhardwaj and P. Jain conducted a literature review on the marketing of library products and services [7].

K. K. Hill argues that advertising to all visitors is important, marketing and awareness of electronic resources is crucial for online users who often cannot physically come to the library to get materials and rely on electronic collections for research and assignments. The analysis of the surveys directly influenced the library's promotion of electronic resources through the development of a marketing plan, as well as the deeper integration of the library into the university's learning management system (LMS), and these strategies led to an increase in the use of electronic resources [13].

S. Joo, N. Choi, and T. Baek identified ten types of Facebook posts based on open source coding: upcoming event, completed past event, emotionally inspirational post, general announcement, library club, books, authors, or collections, story time, community news, profile update/cover photo, and other. In addition, the authors calculated the degree of user engagement for each type of Facebook post, represented by the number of likes, shares, and comments, and investigated the impact of including images or video clips on user engagement [15].

Abigail L. Phillips presents the results of a librarian survey on the social media use, in particular Facebook, for interacting with young people for various purposes. In the survey, librarians indicated that they regularly use Facebook to promote youth programs (76%), youth materials (65%), and youth services (54%). The free responses of these librarians indicate that much of the information provided to young people through Facebook is related to standard library activities. These activities include basic library information, contact information, branch locations, programs, and reader advisories [2].

The study by R. Schrier presents a set of five general principles (listening, participation, transparency, policy, and strategy) that provide digital librarians with simple, concrete strategies for successfully integrating social media into their overall digital library strategic plan. In addition to these specific strategies, the author also explains the theoretical importance

of each principle and its relevance to establishing a rapport with current and potential users of the digital collection [17].

M. Bhuyan and N. Bipasha investigated the social media usage for information marketing during COVID-19 at Dhaka University Library (DUL), Bangladesh. The study results showed that during the COVID-19 pandemic, DUL provided online services through various social media tools. Facebook is used most often in DUL. The results also showed that 62.80% of DUL library professionals were well aware, 28.60% were aware and 8.60% were not quite aware of social media tools. On the other hand, 84.3% of DUL users tend to use social media tools. Most students use social media for educational purposes. 58.3% of respondents use social media daily. In contrast, the largest number of respondents (34.9%) were dissatisfied and the smallest number of respondents (6.9%) were very satisfied with the existing social media tools at DUL [8].

S. Dika and A. Lucky conducted a study to examine the adoption and use of SMS for current information services at the Federal University Library, Lafia, Nasarawa State. As a result, the authors recommend regular internal trainings on the use of information and communication technologies in library procedures, which should be organized by the relevant library department [1].

The results of the study by M. Ahenkorah-Marfo indicate that most university libraries lack policies on the use of social media and that although librarians find social media useful, they lack the competence and motivation to use social media to significantly improve service delivery [4].

S. Chu conducted a study, the results of which show the following: 27 libraries (71.1%) were using social media tools; 5 (13.1%) were potential users and 6 (15.8%) had no plans to use them at all. Facebook and Twitter were the most commonly used tools in university libraries. Most library staff positively evaluate the usefulness of social media tools, but hesitancy of library staff and limited participation of users (i.e. students) are perceived as obstacles [10].

H. Mohammed and A. Ibrahim identified the main problems faced by academic libraries in promoting their services through social networks: insufficient material and technical base, lack of funds, lack of staff and knowledge in marketing, lack of marketing policy.

At the same time, the authors offered some recommendations to address these problems, including: advocating for more marketing opportunities and funds, increasing the number of marketing staff and skills, and developing the best marketing policies, tools, and techniques for effective promotion in their libraries [12].

One of the most popular social networks for popularization purposes is not only Facebook, but also Twitter.

The use of Twitter in libraries allows libraries of both types to broadcast and share information about their activities, opinions, status, and professional interests [[3], [19]].

Other researchers have also explored how digital and traditional marketing methods create awareness among users to better utilize library services and resources [5], [6].

3. Methodology

The research methodology is survey, analysis, and modeling using the DFD representation method.

The study focused on assessing the level of user awareness of the interaction between social media and university libraries in the context of the modern educational environment.

A survey was used to collect data from library users to understand their awareness, attitudes, and frequency of use of library resources available through social media. This allowed obtaining both quantitative and qualitative information about their behavior, which became the basis for further analysis.

As part of the analytical stage, a study of libraries' pages on social media was conducted, which allowed us to assess their activity, the format of interaction with users, and the level of engagement. This analysis revealed key aspects of libraries' presence on social media and their impact on users.

Modeling using the DFD (Data Flow Diagram) method was used to visually represent the process of analyzing user needs on these pages. This made it possible to clearly display the information flows between strategy developers, libraries, and users, in particular, how data on user needs are collected, analyzed, and used to improve content and services. This approach helped to structure the process of interaction between libraries and users on social media, as well as to optimize strategies for meeting their information needs within the modern educational environment.

4. The process of analyzing and developing a strategy for promoting library pages on a social network

For a better understanding of the analysis of the library's social media pages' user needs, a contextual diagram was created that shows the main stages of this process. This representation allows us to clearly identify the key steps: from data collection and analysis of library pages to the formation of recommendations and a content plan for their promotion. This approach simplifies the visualization of the process, providing a systematic approach to developing a strategy for improving the effectiveness of library pages on social media.

Figure 1 shows a context diagram of the analysis process of the library pages users' needs in the social network (Facebook). The main result of this analysis should be a strategy for promoting library pages on the social network by formulating recommendations and a content plan.

To conduct such an analysis, at the request of a particular library, it is necessary to determine the criteria by which to analyze the pages and subsequently formulate recommendations for promotion, fill in a bank of questions for developing surveys of participants in the academic environment of universities, receive answers to the developed questionnaires, and, of course, review the existing content of the pages of these libraries on the social network.

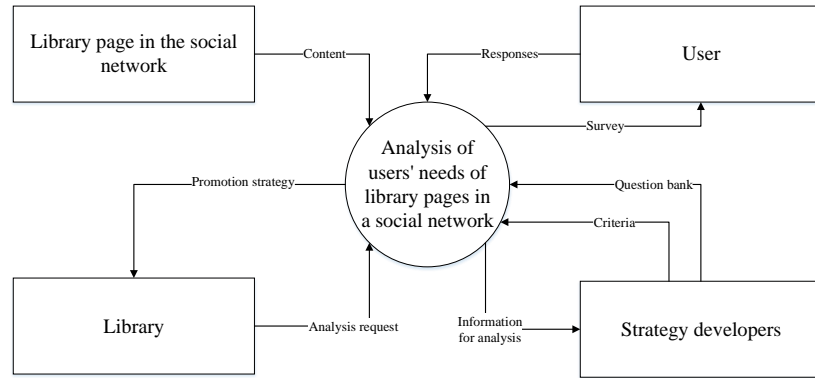


Figure 1: Context diagram for analyzing the library users' needs on social media

As a result of this analysis, the strategy developers receive all the necessary information for the analysis and further development of the strategy (information about the character and frequency of posts in social networks, information about the content needs of visitors to these pages (students and teaching staff, their attitude to the available content).

In order to understand the process of collecting, analyzing and synthesizing information, this process is detailed (Figure 2) by dividing it into 4 subprocesses: analyzing library pages in social networks; forming the survey questionnaire, processing the survey results and forming recommendations.

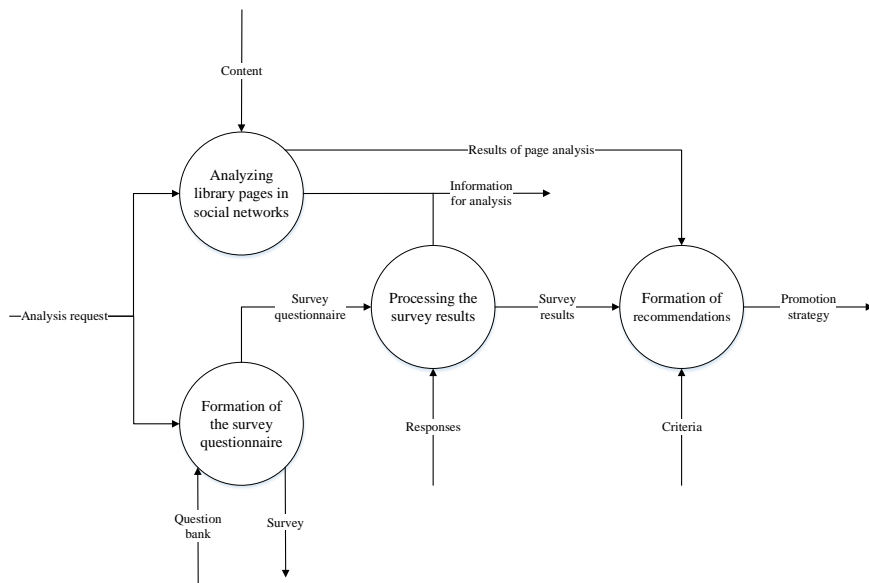


Figure 2: Detailing the main process

Figure 2 shows that the information for the analysis will be obtained from the results of the analysis of library pages on social networks and the results of the survey.

Therefore, the next steps are to analyze library pages on the social network Facebook and conduct a survey.

4.1. Analyzing library pages on the social network Facebook

In the age of rapidly changing technology and the growing importance of social media, university libraries are finding Facebook a powerful tool for interacting with their audiences. Accordingly, it is worthwhile to conduct an in-depth analysis of the libraries' presence in this virtual space, considering various aspects of their activities on Facebook pages.

When considering this aspect of social networking, it is advisable to carefully analyze the strategies used by university libraries to engage readers, communities, and partners. Analyzing the content of publications, mechanisms of interaction and audience reactions will allow us to better understand the impact of social networks on the information space formation and user awareness.

We have selected pages 4 of Ukrainian and Polish university libraries to analyze the information field and the level of use of social networking opportunities:

1. the Scientific and Technical Library of Lviv Polytechnic National University (<https://www.facebook.com/librarynulp>);
2. the Scientific Library of Ivan Franko National University of Lviv (<https://www.facebook.com/LibraryLNU>);
3. the Library of Maria Curie-Skłodowska University in Lublin (<https://www.facebook.com/BibliotekaUMCS>);
4. the University Library in Warsaw (<https://www.facebook.com/BibliotekaUniwersyteckawWarszawie>).

The Scientific and Technical Library of Lviv Polytechnic National University is one of the largest libraries of higher education institutions in Ukraine. The library's book and magazine collection includes about 1 million 800 thousand copies, the majority of which is scientific literature. The library provides basic library and information services to research and teaching staff, students, postgraduates, and other employees of Lviv Polytechnic's structural units. The library page in social media Facebook is shown in the Figure 3.

The Scientific Library of Ivan Franko National University of Lviv is the main scientific library of the university. The collection of the Lviv University Library includes more than 3 million books and serves about 38 thousand users. It consists of 10 departments, 19 sectors, and 10 faculty libraries. The electronic archive of this library contains over 23 thousand documents (1669 authors). The library page in social media Facebook is shown in the Figure 4.

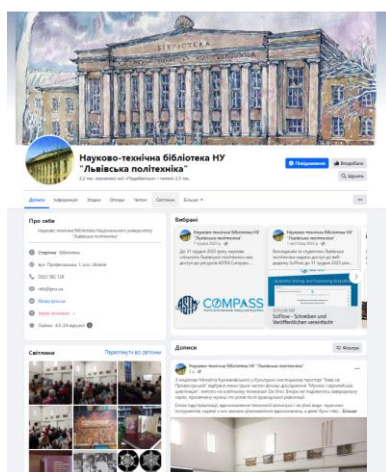


Figure 3: Facebook page of the Lviv Polytechnic Library

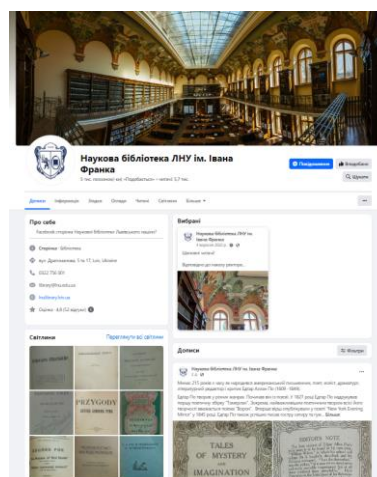


Figure 4: Facebook page of the Ivan Franko National University in Lviv Library

The library of Maria Curie-Skłodowska University in Lublin was established in 1944. At present, the library's resources are universal and include traditional collections; books, journals, ancient written texts, cartographic, graphic and musical collections. An important offer is e-books and journals presented through the resources of licensed databases and the UMCS digital library. The UMCS main library, together with 16 specialized libraries, creates the university's library and information system. It provides its collections to students and staff of its own and other universities, as well as to all residents of Lublin, fulfilling the tasks of a scientific public library. The library page in social media Facebook is shown in the Figure 5.

The University Library in Warsaw was created jointly with the Royal Warsaw University, founded in 1816. At the end of 2022, the library and information system of the University of Warsaw had more than 6 million 300 thousand books, as well as rare old prints, engravings, maps, and manuscripts. The main building's collections contain more than 2 million 250 thousand books. The library also has the largest collection of electronic databases in Poland. A unique feature of the library today is its roof garden, which is one of the largest and most beautiful roof gardens in Europe. The library page in social media Facebook is shown in the Figure 6.

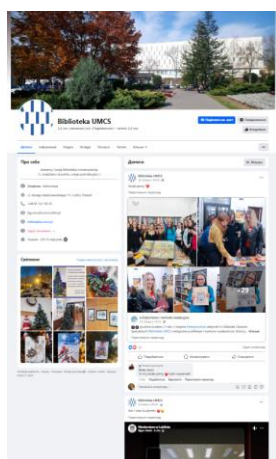


Figure 5: Facebook page of the Marie Curie-Skłodowska University Library in Lublin

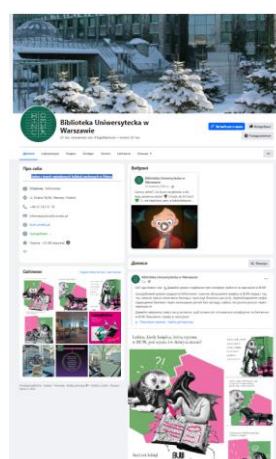


Figure 6: Facebook page of the University Library in Warsaw

To analyze pages on a social network, 5 criteria were selected: the time of the page's existence (date of creation); number of readers; user rating (based on reviews); frequency of posts and type of posts (news – posts about an upcoming event; entertainment – posts of congratulations on the occasion of holidays; informational – posts about past events, new acquisitions, etc.; motivational – posts that encourage certain actions (volunteering, creativity, etc.); reels – short videos up to 60 seconds long on the topic of library activities).

Table 1

Characteristics of university libraries' pages on Facebook (January 21, 2024)

Criterion	Scientific and Technical Library of Lviv Polytechnic National University	Scientific Library of Ivan Franko National University of Lviv	Library of Maria Curie-Skłodowska University in Lublin	University Library in Warsaw
Date of creation	03.11.2011	05.10.2015	24.02.2011	04.11.2009
Number of readers	2 500	5 700	2 200	23 000
User evaluation	4,6 (24 reviews)	4,8 (52 reviews)	2,8 (15 reviews)	3,9 (80 reviews)
Post frequency	Every weekday	Every weekday	Not periodically (1 time/week)	2-3 times / week
Post type	News Entertainment Informational Motivational	News Informational Reels	News Informational Entertaining	News Informational Entertaining

As we can see, the most popular social networking site on Facebook is the University Library in Warsaw, which has 23,000 followers. In addition, this particular library's page was created the fastest and has been around for almost 15 years. The frequency of posts on the page is optimal - 2-3 times a week (on weekdays).

4.2. The survey results of the academic community on the topic “The use of social media by university libraries to establish communication with readers”

The study included a survey of the academic community, which is the target audience of these libraries, and an analysis of the pages of these libraries on Facebook. The survey and analysis of the pages was carried out in the period from 01.09.2023 to 31.12.2023. A survey of the academic community of Ukrainian and Polish universities was conducted to assess the level of library users' awareness of social media.

The survey was conducted in the first semester of the 2023/2024 academic year. A total of 414 people (students and teachers) took part in the survey: Lviv Polytechnic National University – 164; UMCS – 140; Ivan Franko National University in Lviv – 68; Warsaw University – 42. The most active were representatives of Lviv Polytechnic National University and Maria Curie-Skłodowska University (UMCS).

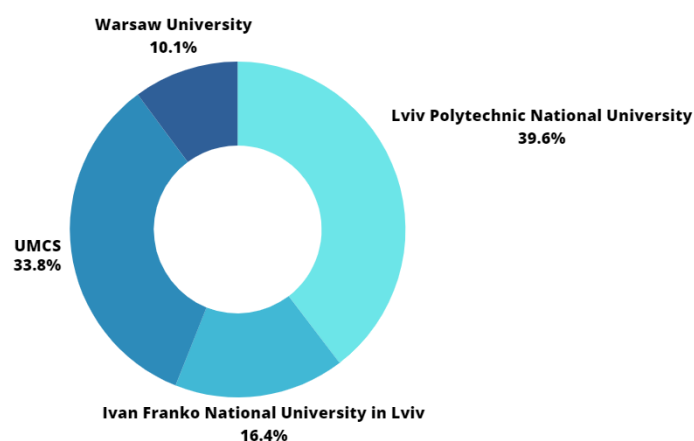


Figure 7: Number of respondents

The main purpose of this survey is to collect information about the use of social media by university libraries to establish communication with readers (students and teachers). The following results were obtained:

- category of respondents: lecturers (44%), students (56%);
- frequency of using library services: weekly (68%), once a month (14%), once a semester (9%);
- the most popular services are: subscription (34%), reading room services (14%), free Internet (65%), and leisure activities (55%);
- source of information about library novelties (new acquisitions, events, etc.): library website (14%), library pages in social networks (34%), colleagues, friends (44%);

- type of content most often posted on the university library's social media page: cognitive (44%), entertaining (35%), educational (24%);
- the type of content that the university library's social media page lacks: cognitive (24%), entertaining (34%), educational (46%).

As we can see from the survey results, the majority of respondents say that cognitive and entertaining content prevails on library pages on social media, while educational content accounts for only ¼ of all content and is lacking in users' minds. Based on these results, we can state that if educational content on social media pages increases, the latter may become a more popular source of information.

An important question for determining the level of awareness of library users through social media was the following: "What services do you think can be implemented through a social media page?", the results of which are presented in Figure 8.

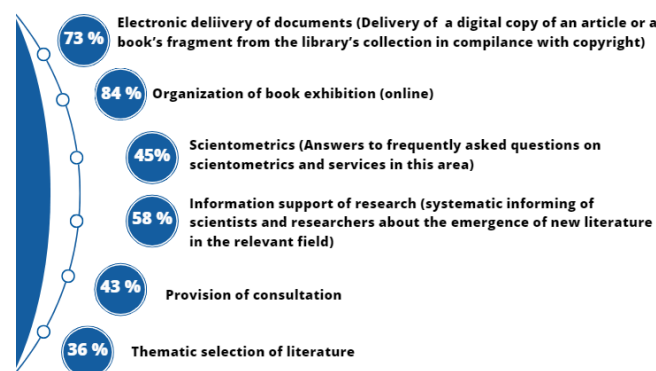


Figure 8: Demand services of libraries through social media

According to the Figure 8 the most popular service is Book exhibitions organization (online). Such a digital exhibition of both fiction and educational literature can be an important step in adapting to current trends and attracting a new generation of readers, not only the academic community, but also pupils, potential applicants, etc. Electronic delivery of documents is also in demand. Such an approach to providing access to digital copies of materials from the library collection can greatly facilitate and improve interaction between libraries, readers and authors, while ensuring copyright compliance. The majority of lecturers and students of the graduate courses noted that it is advisable to provide information support of research, which is critical for accelerating scientific progress and enriching scientific knowledge. This approach also contributes to the convenience and speed of information exchange, providing open access to relevant scientific literature for a large audience of researchers on social networks.

5. Recommendations and suggestions for further improvement of strategies for using social media in the work of university libraries

When formulating recommendations and proposals, the work of academic libraries in social media should be considered from several perspectives: education and promotion of information

literacy; interactivity and attraction of a new target audience; collaboration and partnerships with other institutions, continuous improvement and upgrades.

In accordance with these areas, the following recommendations and suggestions are worth highlighting:

1. Education and promotion of information literacy: it is necessary to focus on creating educational and informational materials to increase the level of information literacy of users; publish useful tips, instructions and information that contribute to the development of skills for effective use of library resources.
2. Interactivity and engagement: it is advisable to develop content that encourages interaction and involvement of the audience, conduct voting, contests, surveys and other interactive activities to create a favorable environment for information exchange and interaction.
3. Strategic planning of publications: it is necessary to develop publication strategies that correspond to the academic calendar, university events and current topics in the educational segment, to determine the optimal hours for publications to maximize audience reach.
4. Data analysis and results evaluation: it is advisable to implement a systematic analysis of user interaction data on social media pages, studying reactions, comments and changes in subscribers to understand the effectiveness of your strategy and make improvements.
5. Collaboration and partnerships: it is necessary to actively interact with other university departments, faculties and organizations through social networks, promote information exchange and celebrate the achievements of the university community.
6. Continuous improvement and upgrades: it is necessary to follow the trends in the use of social networks and introduce new features and tools, support the continuous improvement of the strategy, responding to changes in the requirements and expectations of the audience.

These recommendations take into account the need for university libraries to improve their strategies for using social media to ensure high quality service and maintain active interaction with users in the modern educational environment.

Taking into account the results of the survey, user feedback, and the results of the analysis, it is worth developing a content plan for publications for the university library's social media. There can be several types of content plans: generalized (annual), detailed (monthly), and itemized (weekly/daily). Table 2 shows a sample content plan for a month starting from the beginning of the new academic year.

Table 2

Monthly content plan of publications for social networks of the university library

Day of the week	Week 1: Welcome campaign and introduction to resources	Week 2: Virtual resources and technologies	Week 3: User Interaction and Content	Week 4: Preparing for research and conference
Monday	Congratulations post. Introducing the library and important resources.	Advice on using e-books and databases. Questions and answers about accessing virtual resources.	A contest or voting on the topic of the next virtual event. Call for students to share their impressions of using the library.	Announcements of conferences, seminars, etc.
Wednesday	Publishing a short video tour of the library. Asking students to share their expectations.	Webinar or online demonstration of the special technologies used in the library. Information about useful apps for students.	Publicizing user feedback and their success stories. Answers to users' questions received through social networks.	Technical aspects of the report preparation
Friday	Share success stories of library users. Share information about specific services and resources that can be found in the library.	Announcement of an online course or webinar by librarians. Content about innovative technologies in the library.	Recognizing and thanking the most active readers. Invitations to online discussions or a readers' club	Virtual completion of the month

This content plan aims to diversify, engage with the audience, and maintain interest in the library in the online environment. The content plan for Facebook posts for a university library plays a key role in developing an effective communication strategy and interaction with the audience. The main functions of the content plan include: audience engagement; informing users; creating and maintaining a community; increasing visibility; interaction and retention; creating a positive brand. A well-coordinated and carefully prepared content plan defines the basis of the library's social media strategy, helps maintain a positive reputation and builds long-term relationships with readers.

6. Summary and Conclusion

The article analyzes the use of social networks by university libraries in Ukraine and Poland as an effective tool for raising the level of user awareness in the modern educational environment. The study indicates that virtual communities created on various platforms, including Facebook, can significantly affect the availability of information, as well as create a unique interactive space for knowledge sharing and user interaction.

The results of the survey and analysis of library pages on social media show the positive impact of these tools on increasing information literacy and active participation of readers in library processes. It was found that the majority of users evaluate social networks as a convenient and effective channel for obtaining up-to-date information, as well as for communicating with librarians and like-minded people.

However, it is also necessary to note the challenges associated with maintaining an active and targeted audience on social media, as well as the need to constantly update and modernize content to ensure its relevance and interest.

The overall conclusion is that social media is an important tool for university libraries in today's educational environment, promoting active and interactive engagement and raising awareness among users. An important prospect is further research and improvement of strategies for using social media for the most effective integration into the educational process.

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